

**BAA05-13  
Proposer Information Pamphlet (PIP)**

for

**Defense Advanced Research Projects Agency  
(DARPA)  
Advanced Technology Office (ATO)**

**Advanced Technologies**

\*\*\*\*\*  
This BAA will be open from January 1, 2005 through December 31, 2006 (2 Yrs)  
\*\*\*\*\*

**BAA05-13, Advanced Technologies**

**1. INTRODUCTION..... 3**

1.1. TECHNICAL TOPIC AREAS ..... 3

1.2. APPROACH ..... 3

1.3. PROPOSERS ..... 4

1.4. PROGRAM SCOPE AND FUNDING..... 5

1.5. PERIOD OF PERFORMANCE ..... 5

1.6. TECHNICAL AND ADMINISTRATIVE SUPPORT ..... 5

1.7. INSTRUCTIONS AND POINTS OF CONTACT ..... 5

**2. OVERVIEW OF ADVANCED TECHNOLOGIES..... 5**

**3. GENERAL INFORMATION ..... 6**

3.1. ELIGIBILITY ..... 6

3.2. LIMITATIONS ON OTHER TRANSACTION FOR PROTOTYPE PROJECTS ..... 6

3.3. PROCUREMENT INTEGRITY, STANDARDS OF CONDUCT, ETHICAL CONSIDERATIONS ..... 7

3.4. INTELLECTUAL PROPERTY ..... 8

    3.4.1. Noncommercial Items: (Technical Data and Computer Software)..... 8

    3.4.2 Commercial Items: (Technical Data and Computer Software)..... 8

    3.4.3. Noncommercial Items and Commercial Items: (Technical Data and Computer Software)..... 9

3.5. REPORT REQUIREMENTS ..... 9

3.6. SUBCONTRACTING ..... 9

**4. PROPOSAL PREPARATION ..... 9**

4.1. GENERAL GUIDANCE ..... 9

    4.1.1. Restrictive Markings on Proposals ..... 10

    4.1.2. Proposal Handling..... 10

    4.1.3. Submission Guidelines..... 10

4.2. SUBMISSION ORDER AND FORMAT SPECIFICS ..... 11

    4.2.1. Executive Summary ..... 11

    4.2.2. Proposal Abstract and Discussion with a DARPA/ATO PM ..... 12

    4.2.3. Full Proposal ..... 13

**5. PROPOSAL EVALUATION..... 17**

5.1 TECHNICAL APPROACH..... 17

5.2 RELEVANT EXPERIENCE..... 17

5.3 POTENTIAL CONTRIBUTION AND RELEVANCE TO THE DARPA MISSION ..... 18

5.4 APPROACH/ABILITY TO TECHNOLOGY TRANSITION ..... 18

5.5 COST REALISM..... 18

**6. SECURITY INFORMATION ..... 18**

6.1. PROPOSAL SUBMISSION INFORMATION ..... 18

## 1. INTRODUCTION

The Defense Advanced Research Projects Agency's (DARPA) Advanced Technology Office (ATO) is soliciting proposals under this BAA for the performance of research, development, design, and testing that directly supports Advanced Technology Office (ATO). This includes Robust Networking and Communications, Intelligence Preparation of the Battlesphere (IPB), Information Operations (IO), Information Assurance (IA), Computer Network Operations, Maritime, Special Operations and technologies that provide unconventional advantages over adversaries or potential adversaries.

### 1.1. TECHNICAL TOPIC AREAS

Research supporting any of the general ATO technical objectives identified in the Introduction above are acceptable for submission under BAA05-13; however, although this list is not all-inclusive, the following topic areas are of specific interest:

- 1) novel approaches to the development, implementation and control of networked weapons systems,
- 2) novel approaches for the development, implementation and control of heterogeneous networks of human decision makers and human-operated or autonomous sensors and weapons,
- 3) novel microprocessor/computing architectures to support secure computing,
- 4) trustworthy computing in mobile environments,
- 5) improved explosives with a yield of 3-5 times of TNT,
- 6) low-cost military grade encryption mechanisms / devices,
- 7) object based file systems,
- 8) network storage and caching protocols for reducing long-haul communications loads,
- 9) wide area network firewalls and proxies, capable of dealing with asymmetric data flows and speeds in excess of 5 Gbps,
- 10) information and communication technologies to enable "power to the edge" for air, land and maritime systems,
- 11) energy at sea,
- 12) autonomous target recognition and classification algorithms for asymmetric littoral threats,
- 13) persistence and ubiquitous maritime sensor systems,
- 14) novel methods for tracking, localization, and identification of maritime vessels,
- 15) mobile, distributed, autonomous systems for undersea environments,
- 16) unmanned amphibious & underwater gliding surveillance vehicles,
- 17) miniature, low power underwater (water column and bottom mounted) sensors and networks,
- 18) biofabrication processes for improved nanostructured devices and materials,
- 19) solid-state lighting devices and systems,
- 20) biomimetic object-vision recognition,
- 21) advanced electronic vision and situation-awareness devices, algorithms, and systems,
- 22) non-cooperative LPD building interior imaging systems,
- 23) squad/platoon level smart munitions and/or designators,
- 24) robust wireless military communication network architecture and system technology to enable graceful degradation under cross-layer fixes,

- 25) wideband TeraHertz communications and networking system technology,
- 26) passive, all-weather landing capability for manned fixed wing VTOL aircraft,
- 27) reconfigurable transceiver analog front end technology,
- 28) electrostatic underwater navigation system,
- 29) novel underwater high maneuverability propulsion system,
- 30) approaches to inter-connect wave-division multiplexed backbone communications infrastructures with IP-based metropolitan networks (may include route discovery/distribution and new addressing schemes),
- 31) approaches to make tactical networks auto-configuring for both voice and data with the goal of reducing the manpower requirements (may include the complete replacement of IP as the underlying data protocol),
- 32) high-speed (40 Gbps-100 Tbps) optical encryption systems,
- 33) new approaches to self-forming, wireless, mesh networks of over 10,000 devices with high throughput (at least 50 Mbps) across the network between two end-points. This may include work on multiple frequencies, graph partitioning, and sub-net allocations,
- 34) novel approaches to identifying, generating, and assessing alternative effects-based courses of action for conducting campaigns by joint and coalition forces,
- 35) novel approaches to understanding and visualizing the battlespace and monitoring effects based operations,
- 36) novel approaches to effect collaboration among human decision makers in heterogeneous, coalition environments,
- 37) size-weight-power reduced soldier electronics and communications devices,
- 38) microelectronic systems comprising advanced system concepts coupling electronics, sensors and actuators with micro scale packaging and battery technologies,
- 39) computer forensic and software protection technologies, and
- 40) programmable light emitting diodes (LED) that blink at nanosecond intervals, that can withstand launch from a medium velocity gun.

## **1.2. APPROACH**

This BAA affords proposers the choice of submitting proposals for the award of a Grant, Cooperative Agreement, Procurement Contract, Technology Investment Agreement, Other Transaction for Prototype Agreement, or other such appropriate award instrument. The Government reserves the right to negotiate the type of award instrument determined appropriate under the circumstances.

## **1.3. PROPOSERS**

The Government encourages proposals from non-traditional defense contractors, nonprofit organizations, educational institutions, small businesses, small disadvantaged business concerns, Historically-Black Colleges and Universities (HBCU), Minority Institutions (MI), large businesses and Government laboratories. Teaming arrangements between and among these groups are encouraged. However, no portion of this BAA will be set aside for HBCU and MI participation due to the impracticality of preserving discrete or severable areas of research in the technologies sought. Government/National laboratory proposals may be subject to applicable direct competition limitations, though certain Federally Funded Research and Development

Centers are excepted per P.L. 103-337 § 217 and P.L 05-261 § 3136. Any responsible and otherwise qualified proposer is encouraged to respond.

#### **1.4. PROGRAM SCOPE AND FUNDING**

The Government anticipates multiple comprehensive awards in Calendar Year (CY) 2005 and CY 2006. The Government desires to award the optimum combination of proposals which offers the best overall value to the Government. DARPA reserves the right to fund some, all, or none of the proposals received in response to BAA05-13 and to award without discussions. Further, DARPA may choose to select for negotiation all of a given proposal, or selected portions thereof.

#### **1.5. PERIOD OF PERFORMANCE**

Any effort proposed under this BAA shall not exceed five (5) years. This includes base effort and all potential options. It is envisioned that any base effort proposed will not exceed 12 months, and each successive phase or option proposed will not exceed 12 months. Offerors should not propose total efforts exceeding 60 months. Any proposal doing so maybe disregarded.

The Government may incrementally fund any awards under this BAA.

#### **1.6. TECHNICAL AND ADMINISTRATIVE SUPPORT**

It is the intent of this office to use contractor support personnel in the administration of all submittals to this BAA. The Government intends to use non-government employees and subcontractors, to include, but not limited to SRA International, Fairfax, VA to assist in administration and, if needed, provide technical expertise on portions of the proposals. These personnel will have signed and be subject to the terms and conditions of non-disclosure agreements. By submission of its proposal, a proposer agrees that its proposal information may be disclosed to employees of these organizations for the limited purpose stated above. If you do not send notice of objection to this arrangement, the Government will assume you consent to use the subject personnel in review of your submittal(s) under this BAA. Only Government personnel will make technical evaluations and award recommendations or decisions under this BAA.

#### **1.7. INSTRUCTIONS AND POINTS OF CONTACT**

All questions pertaining to this BAA (technical, contractual, administrative) must be submitted to DARPA at the following e-mail address: BAA05-13@darpa.mil. DARPA may post updates to questions or comments periodically to the solicitation website: [www.fedbizopps.gov](http://www.fedbizopps.gov) and [www.fedgrants.gov](http://www.fedgrants.gov).

## **2. OVERVIEW OF ADVANCED TECHNOLOGIES**

The Defense Advanced Research Projects Agency's (DARPA) is soliciting proposals under this BAA for the performance of research, development, design, and testing that directly supports Advanced Technology Office (ATO). This includes Robust Networking and Communications, Intelligence Preparation of the Battlesphere (IPB), Information Operations (IO), Computer Network Operations, Maritime, Special Operations and technologies that provide unconventional advantages over adversaries or potential adversaries. The objective of this search is to enable

revolutionary advances in warfighting capability. To achieve this objective, offerors should emphasize radical concepts that may contain high technical risk, but if enabled would have commensurate high military payoff. The Government is *not* interested in extensions to existing DARPA programs or minor improvements to operational capability. Rather, DARPA is seeking concepts that will provide either an entirely new military capability or will enhance existing capability by orders of magnitude (based on demonstrable relevant metrics).

Offerors should initially be prepared to support the technical feasibility of their concept or idea, and then be prepared to demonstrate and discuss successive phases leading toward technology development. As such, offerors successfully concluding the steps of Executive Summary, and Proposal Abstract, described herein, should be prepared to propose a base effort supporting the technical feasibility of their concept or idea, and to propose pre-priced options or subsequent phases that further lead toward technology development. As stated in Section 1.5, Period of Performance, it is envisioned that the base effort proposed will not exceed 12 months, and each successive phase or option proposed will not exceed 12 months. Offerors should not propose total efforts exceeding 60 months. Any such proposal doing so maybe disregarded. Multiple awards during CY 2005 are anticipated.

### **3. GENERAL INFORMATION**

#### **3.1. ELIGIBILITY**

This BAA solicits proposals from all interested and qualified sources. Foreign participants and/or individuals may participate to the extent that such participants comply with any necessary Non-Disclosure Agreements, Security Regulations, Export Laws, and other governing statutes applicable under the circumstances.

#### **3.2. LIMITATIONS ON OTHER TRANSACTION FOR PROTOTYPE PROJECTS**

Proposers are advised that an Other Transaction for Prototype Agreement will only be awarded if there is:

1. At least one nontraditional defense contractor participating to a significant extent in the prototype project, or
2. No nontraditional defense contractor is participating to a significant extent in the prototype project, but at least one of the following circumstances exists:
  - a. At least one third of the total cost of the prototype project is to be paid out of funds provided by the parties to the transaction other than the federal Government. The cost share should generally consist of labor, materials, equipment, and facilities costs (including allocable indirect costs).
  - b. Exceptional circumstances justify the use of a transaction that provides for innovative business arrangements or structures that would not be feasible or appropriate under a procurement contract.

Although use of one of these options is required to use an Other Transaction for Prototype agreement as the procurement vehicle, no single option is encouraged or desired over the others.

NOTE: For purposes of determining whether or not a participant may be classified as a nontraditional defense contractor and whether or not such participation is determined to be

participating to a significant extent in the prototype project, the following definitions are applicable:

“Nontraditional defense contractor” means a business unit that has not, for a period of at least one year prior to the date of the OT agreement, entered into or performed on:

1. any contract that is subject to full coverage under the cost accounting standards prescribed pursuant to section 26 of the Office of Federal Procurement Policy Act (41 U.S.C. 422) and the regulations implementing such section; or
2. any other contract in excess of \$500,000 to carry out prototype projects or to perform basic, applied, or advanced research projects for a Federal agency that is subject to the Federal Acquisition Regulation.

“Participating to a significant extent in the prototype project” means that the nontraditional defense contractor is supplying a new key technology or product, is accomplishing a significant amount of the effort wherein the role played is more than a nominal or token role in the research effort, or in some other way plays a significant part in causing a material reduction in the cost or schedule of the effort or an increase in performance of the prototype in question.

NOTE: Proposers are cautioned that if they are classified as a traditional defense contractor, and propose the use of an OT for Prototype Agreement, the government will require submittal of both a cost proposal under the guidelines of the FAR/DFARS, and a cost proposal under the proposed OT for Prototype Agreement, so that an evaluation may be made with respect to the cost tradeoffs applicable under both situations. The government reserves the right to negotiate either a FAR based procurement contract, or Other Transaction for Prototype Agreement as it deems is warranted under the circumstances.

### **3.3. PROCUREMENT INTEGRITY, STANDARDS OF CONDUCT, ETHICAL CONSIDERATIONS**

Certain post-employment restrictions on former federal officers and employees may exist, including special Government employees (Section 207 of Title 18, United States Code). If a prospective proposer believes that a conflict of interest exists, the situation should be raised to the DARPA Contracting Officer specified in Section 1.6 (Instructions and Points of Contact) before time and effort are expended in preparing a proposal. All proposers and proposed sub-contractors must therefore affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any DARPA technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the proposer supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5.) must be disclosed. The disclosure shall include a description of the action the proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict.

**3.4. INTELLECTUAL PROPERTY**

**3.4.1. Noncommercial Items: (Technical Data and Computer Software)**

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS, shall identify all noncommercial technical data, and noncommercial computer software that it plans to generate, develop, and/or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights, and to assert specific restrictions on those deliverables. Proposers shall follow the format under DFARS 252.227-7017 for this stated purpose. In the event that proposers do not submit the list, the Government will assume that it automatically has “unlimited rights” to all noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, unless it is substantiated that development of the noncommercial technical data and noncommercial computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data, and noncommercial computer software generated, developed, and/or delivered under any award instrument, then proposers should identify the data and software in question, as subject to Government Purpose Rights (GPR). In accordance with DFARS 252.227-7013 Rights in Technical Data - Noncommercial Items, and DFARS 252.227-7014 Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation, the Government will automatically assume that any such GPR restriction is limited to a period of five (5) years in accordance with the applicable DFARS clauses, at which time the Government will acquire “unlimited rights” unless the parties agree otherwise. Proposers are admonished that the Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

A sample list for complying with this request is as follows:

<b>NONCOMMERCIAL</b>			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

**3.4.2 Commercial Items: (Technical Data and Computer Software)**

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS, shall identify all commercial technical data, and commercial computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government’s use of such commercial technical data and/or commercial computer software. In the event that proposers do not submit the list, the Government will assume that there are no restrictions on the Government’s use of such commercial items. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

A sample list for complying with this request is as follows:

<b>COMMERCIAL</b>			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

**3.4.3. Noncommercial Items and Commercial Items: (Technical Data and Computer Software)**

Proposers responding to this BAA requesting a Grant, Cooperative Agreement, Technology Investment Agreement, or Other Transaction for Prototype shall follow the applicable rules and regulations governing these various award instruments, but in all cases should appropriately identify any potential restrictions on the Governments use of any Intellectual Property contemplated under those award instruments in question. This includes both Noncommercial Items and Commercial Items. Although not required, proposers may use a format similar to that described in Paragraphs 3.4.1 and 3.4.2 herein. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

**3.5. REPORT REQUIREMENTS**

The number and types of reports will be specified in the award document, but will include as a minimum quarterly funds status reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award, notwithstanding the fact that the research may be continued under a follow-on vehicle.

**3.6. SUBCONTRACTING**

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy. Each proposer who submits a contract proposal and includes subcontractors is required to submit a subcontracting plan IAW FAR 19.702(a) (1) and (2) should do so with their proposal. The plan format is outlined in FAR 19.704.

**4. PROPOSAL PREPARATION**

**4.1. GENERAL GUIDANCE**

In order to reduce the administrative burden on proposers and the Government, and in an attempt to mitigate unnecessary costs associated with the generation of proposals that are not of interest

to DARPA/ATO, described herein is the Government's process for submittal of information for evaluation. Any responsible offeror is encouraged to respond.

#### **4.1.1. Restrictive Markings on Proposals**

All proposals should clearly indicate limitations on the disclosure of their contents. Proposers who include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall-

(1) Mark the title page with the following legend:

This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed-in whole or in part-for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this proposer as a result of, or in connection with, the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [*insert numbers or other identification of sheets*]; and

(2) Mark each sheet of data it wishes to restrict with the following legend:

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

Markings like "Company Confidential" or other phrases that may be confused with national security classifications shall be avoided. See Section 6.0, for additional information.

#### **4.1.2. Proposal Handling**

It is the policy of DARPA to treat all proposals as competitive information and to disclose their contents only for the purpose of evaluation. No proposals will be returned. The original of each proposal received will be retained at DARPA and all other copies of non-accepted proposals destroyed. Documentation related to the source selection process will be marked "SOURCE SELECTION INFORMATION – SEE FAR 2.101 AND 3.104".

DARPA/ATO will endeavor to respond to all submissions in an expeditious and timely manner. DARPA will assign a control number that should be used in all further correspondence regarding the proposal abstract.

#### **4.1.3. Submission Guidelines**

This BAA shall be open from 1 January 2005 through 31 December 2006.

**Executive Summaries must be submitted via e-mail** to BAA05-13@darpa.mil (see paragraph 4.2.1 below); hard copy submissions of executive summaries will not be accepted.

Proposal abstracts and full proposals under this BAA may be either mailed or hand-delivered. E-mail or fax submissions of proposal abstracts and full proposals will not be accepted.

Mailing address: DARPA  
ATTN: **BAA05-13**  
3701 North Fairfax Drive  
Arlington, VA 22203-1714

For hand deliveries, the courier shall deliver the package to the DARPA Visitor Control Center at the address specified above. The outer package, as well as the cover page of the proposal, must be marked “**Advanced Technologies BAA05-13.**”

## **4.2. SUBMISSION ORDER AND FORMAT SPECIFICS**

### **4.2.1. Executive Summary**

*Initial offeror submissions to the Government should be a one-page executive summary only.*

The purpose of the executive summary is to give the proposer the opportunity to solicit early feedback from the Government as to whether or not the research proposed will be of interest to DARPA/ATO. It is thus in the submitter’s best interest to clearly articulate the innovative concept and technology development needed with respect to demonstrable metrics. The submission of the executive summary is intended to avoid unnecessary expense in proposal generation for ideas that will not be selected within this BAA.

#### **4.2.1.1. Executive Summary Format**

All submissions must be in the following format—nonconforming submissions may be rejected without further review. The executive summary should be clearly marked "EXECUTIVE SUMMARY" and the total length shall not exceed one (1) page. A page is defined as being no larger than 8.5” by 11.0”. (Accordion-style foldouts will be counted as multiple pages equivalent to the expanded size.) Proposals must be written in English, and with 1-inch margins (left, right, top, and bottom) on each page and contain no smaller than 12 point font type.

The page limitation for executive summaries includes all point of contact information, figures, tables, and charts. Do not submit additional copies of the same executive summary for different technical topic areas. If an executive summary applies to more than one area, simply indicate that fact.

**Proposers must submit their one-page executive summary as an attachment to an email addressed to: BAA05-13@darpa.mil.** The email must include a valid organizational mailing address. The attachment must be capable of being readable by Microsoft Word 97 or higher. The subject line of the email shall include the following: “Executive Summary submitted under BAA 05-13 by: [INSERT NAME OF COMPANY] for [INSERT IDEA/CONCEPT PROPOSED]”. No facsimile or hard copy submissions will be accepted.

DARPA/ATO will endeavor to respond to executive summaries in an expeditious and timely manner. If DARPA/ATO does not have interest in your Executive Summary you will be notified by a formal letter. If DARPA/ATO is interested in receiving more information on your submission, you will be notified, by a formal letter, of the Program Manager (PM) to whom your

Executive Summary has been assigned. Offerors should then expect to develop a **Proposal Abstract**, (see paragraph 4.2.2.).

#### **4.2.2. Proposal Abstract and Discussion with a DARPA/ATO PM**

Discussions at this step with the DARPA/ATO PM are intended to further explore the concepts, ideas, and other areas of interest presented in the Executive Summary. Offerors will be able to further discuss the technical merits of their concept with a DARPA/ATO Program Manager. The purpose of the Proposal Abstract is to permit the submitter to present a more detailed explanation of the idea/concept, its technical merit and military relevance. The submitter should articulate the innovative concept and technology development needed with respect to demonstrable metrics. The submission of the Proposal Abstract should be used by the offeror to avoid unnecessary expense in proposal generation for ideas that may not be selected within this BAA. Offerors should explain in the Proposal Abstract the feasibility of idea/concept transition to the military, other government agencies or organizations, or other interested users, as applicable. Additionally, offerors should clearly specify the intended demonstrable improvements over current systems, explain transition paths, specify tentative schedules, and provide a rough estimate of cost. DARPA/ATO will endeavor to respond to proposal abstracts in an expeditious and timely manner.

If DARPA/ATO does not have any interest in your Proposal Abstract you will be notified by a formal letter. If DARPA/ATO is interested in your Proposal Abstract, you will be encouraged by a formal letter to submit a full proposal. Offerors should then expect to proceed to the third step—submitting a full proposal (See paragraph 4.2.3.)

##### **4.2.2.1. Proposal Abstract Format**

All submissions must be in the following format—nonconforming submissions may be rejected without further review. The total abstract length shall not exceed six (6) pages, including the table of contents. A page is defined as being no larger than 8.5” by 11.0”. (Accordion-style foldouts will be counted as multiple pages equivalent to the expanded size.) Proposals must be on single-sided pages, written in English, and with 1-inch margins (left, right, top, and bottom) on each page. Paper copies of proposals shall be stapled or bound, and **not** submitted in a loose leaf binder. The Technical Proposal shall contain no smaller than 12 point font type.

The page limitation for abstracts includes all figures, tables, and charts. No formal transmittal letter is required.

**No electronic or facsimile submissions of the abstract will be accepted.** All proposal abstracts will be either mailed or hand-delivered to DARPA, and shall include the following:

- one (1) original of the proposal abstract and
- one (1) paper copy of the proposal abstract and
- one (1) electronic copy of the proposal abstract. Electronic copies must be:
  - on a CD-ROM.
  - clearly labeled with **BAA 05-13**, proposer organization, and proposal title (short title recommended), and the technical research area being pursued.
  - in PDF or an MS-Word-readable application.

The Proposal Abstract shall have a cover sheet (not included in the six page limit) with the following information:

1. BAA number (**BAA05-13**)
2. Abstract title
3. Technical area (see Para 1.1)
4. Lead Organization Submitting proposal
5. Type of business, selected among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," or "OTHER NONPROFIT"
6. Contractor's taxpayer identification number
7. Other team members (if applicable) and type of business for each
8. Technical point of contact to include: salutation, last name, first name, valid organizational mailing address, telephone, fax, electronic mail
9. Administrative point of contact to include: salutation, last name, first name, valid organizational mailing address, telephone, fax, electronic mail
10. Funds requested from DARPA for each phase proposed and the total proposed cost; and the amount of cost share (if any)
11. Date abstract was prepared.

#### **4.2.3. Full Proposal**

A typical proposal should express a consolidated effort in support of the ideas and/or concepts discussed in the Executive Summary and Proposal Abstract. Disjointed efforts or approaches should not be included in a single proposal. For purposes of this BAA, a "proposal" is the two-volume document that conforms to the form and format requirements specified herein. Other supporting or background materials submitted with proposals or other such extraneous materials will not be considered part of a proposal for the purpose of a proposal's evaluation. Any total effort, including options, shall not exceed five (5) years. Teaming and cost sharing are acceptable to the extent that they are meaningful and beneficial to the Government, but are not required.

##### **4.2.3.1 Full Proposal Format**

All submissions must be in the following format—nonconforming proposals may be rejected without further review. Proposals shall consist of two volumes. Volume I, Technical and Management Proposal, consists of three sections: 1) Administrative, 2) Detailed Proposal, and 3) Additional Information. Volume I (including sections 1 and 2 only) shall not exceed 50 pages. A page is defined as being no larger than 8.5" by 11.0". (Accordion-style foldouts will be counted as multiple pages equivalent to the expanded size.) Section 3, Additional Information, may contain a bibliography and up to three (3) relevant papers or research notes (published and unpublished), which document the technical ideas and approach upon which the proposal is based. Section 3 is not included in the 50-page limitation. The submission of other supporting materials along with the proposal is strongly discouraged and will not be considered for review.

Proposals must be on single-sided pages, written in English, and with 1-inch margins (left, right, top, and bottom) on each page. Paper copies of proposals shall be stapled or bound, and not

submitted in a loose leaf binder. The Technical Proposal shall contain no smaller than 12 point font type. The Cost Proposal shall contain no smaller than 8 point font type. Larger font type for the Cost Proposal, up to 12 point font type, is desired, where appropriate.

The page limitation for proposals includes all figures, tables (except the table of contents), and charts. Restrictions on the page length of any specific section are shown in braces { } below. All pages that exceed the maximum page limit specified may be removed and not be reviewed or considered in evaluation.

**No electronic or facsimile submissions of full proposals will be accepted.** All full proposals will be either mailed or hand-delivered to DARPA, and shall include the following:

- o one (1) original of the full proposal and
- o three (3) copies of the full proposal and
- o one (1) electronic copy of the full proposal. Electronic copies must be:
  - on a CD-ROM.
  - clearly labeled with **BAA 05-13**, proposer organization, and proposal title (short title recommended), and the technical research area being pursued.
  - in PDF or an MS-Word-readable application.

#### 4.2.3.1.1. Volume I, Technical and Management Proposal

##### Section 1) Administrative:

1. {1} Cover sheet to include:
  - a. BAA number (**BAA 05-13**)
  - b. Proposal title
  - c. Technical Area (See Para 1.1)
  - d. Lead Organization Submitting proposal
  - e. Type of business, selected among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," or "OTHER NONPROFIT"
  - f. Contractor's taxpayer identification number
  - g. Other team members (if applicable) and type of business for each
  - h. Technical point of contact to include: salutation, last name, first name valid organizational mailing address, telephone, fax, electronic mail
  - i. Administrative point of contact to include: salutation, last name, first name, valid organizational mailing address, telephone, fax, electronic mail
  - j. Funds requested from DARPA for the Base Effort, each option and the total proposed cost; and the amount of cost share (if any)
  - k. Date proposal was prepared.
2. {1} Official transmittal letter.
3. {No page limit} Table of Contents. The Table of Contents should be keyed to the page numbers of the proposal sections.
4. {1} A one slide summary of the proposal in PowerPoint that quickly and succinctly indicates the main objective, key innovations, expected impact, and other unique aspects of the proposal.

## Section 2) Detailed Proposal Information:

This section provides the detailed discussion of the proposed work necessary to enable an in-depth review of the specific technical and managerial issues. Specific attention must be given to addressing both risk and payoff of the proposed work that make it desirable to DARPA. NOTE: any classified annex will be considered part of this section, and included in the maximum page count.

1. {1} Executive Summary of the proposal: This section should succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art and alternate approaches. Define the problem/challenge that this innovative claim will address and the effort's technical goals. Explain how this proposal addresses this problem differently than current approaches and the significant gains due to its uniqueness.
2. {3} Innovative claims for the proposed research. This section is the centerpiece of the proposal. It should succinctly describe the uniqueness and benefits of the proposed approach relative to current state-of-the-art and alternate approaches.
3. {3} Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization will clearly address how the proposed effort will meet the goals of the program. Include in this section all proprietary claims to results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. (SEE SECTION 3.4, INTELLECTUAL PROPERTY.) If there are no proprietary claims, this should be stated. NOTE: For purposes of completing section 3.4, Intellectual Property, this information will not be counted in the proposers page count.
4. {3} Statement of Work (SOW) written in plain English, outlining the scope of the effort and citing specific tasks to be performed and specific contractor requirements.
5. {3} Cost, schedule and milestones for the proposed research, including estimates of cost for each task in each year of the effort, for each phase, and total cost and company cost share, if applicable.
6. {21} Detailed technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of innovative claims and deliverable production. Includes a thorough quantitative discussion of relevant technical information and a detailed plan. This section should clearly explain: What you are proposing (and how it works); why you are proposing this approach; why you believe it can be done now; and the importance or effect if successful (who will care and why).
7. {5} Comparison with other ongoing research indicating advantages and disadvantages of the proposed effort.
8. {3} Discussion of proposer's previous accomplishments and work in this or closely related research areas.
9. {2} Description of the facilities that would be used for the proposed effort. If conducted with operational forces, what agreements/coordination has been made or will be required to meet this requirement.
10. {3} Formal teaming agreements that are required to execute this program and a brief synopsis of all key personnel. A clearly defined organization chart for the program team that includes, as applicable the:
  - a. programmatic relationship of team members;

- b. unique capabilities of team members;
- c. task responsibilities of team members;
- d. teaming strategy among the team members; and
- e. key personnel along with the amount of effort to be expended by each person during each year.

Section 3) Additional Information:

A brief bibliography of relevant technical papers and research notes (published and unpublished) which document the technical ideas upon which the proposal is based. Copies of not more than three (3) relevant papers can be included in the submission. These papers are not included in the fifty (50) page limit.

4.2.3.1.2. Volume II, Cost Proposal – {No page limit}

1. A cover sheet to include:
  - a. Name and address of proposer (include zip code);
  - b. Name, title, and telephone number of Proposer's point of contact;
  - c. Award instrument requested: cost-plus-fixed-fee (CPFF), cost-contract--no fee, cost sharing contract--no fee, or other type of procurement contract (specify), grant, agreement, or other award instrument;
  - d. Place(s) and period(s) of performance;
  - e. Funds requested from DARPA for the Base Effort, each option and the total proposed cost; and the amount of cost share (if any);
  - f. Name, mailing address, telephone number and Point of Contact of the proposers cognizant government administration office(i.e., Office of Naval Research/Defense Contract Management Agency (DCMA)) (if known);
  - g. Name, mailing address, telephone number, and Point of Contact of the Proposer's cognizant Defense Contract Audit Agency (DCAA) audit office (if known);
  - h. Any Forward Pricing Rate Agreement, other such Approved Rate Information, or such other documentation that may assist in expediting negotiations (if available);
  - i. Contractor and Government Entity (CAGE) Code,
  - j. Dun and Bradstreet (DUN) Number;
  - k. North American Industrial Classification System (NAICS) Number [NOTE: This was formerly the Standard Industrial Classification (SIC) Number]; and,
  - l. Taxpayer Identification Number (TIN).
  - m. All subcontractor proposal backup documentation to include items a. through l. above, as is applicable and available).
  
2. Detailed cost breakdown to include:
  - a. Total program cost broken down by government fiscal year (GFY) [Note: Government Fiscal Year runs from October 1<sup>st</sup> to September 30<sup>th</sup>] and Base and Options; further broken down by major cost items (direct labor, subcontracts, materials, travel, other direct costs, overhead charges, etc.). See table below for an example format;

- b. Costs of major program tasks by year and month; More descriptive or example
- c. An itemization of major subcontracts (labor, travel, materials and other direct costs) and equipment purchases;
- d. A summary of projected funding requirements by month; and
- e. The source, nature, and amount of any industry cost sharing, if applicable. Where the effort consists of multiple phases that could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each.

Supporting cost and pricing information in sufficient detail to substantiate the summary cost estimates above. Include a description of the method used to estimate costs and supporting documentation. Provide the basis of estimate for all proposed labor rates, indirect costs, overhead costs, other direct costs and materials, as applicable.

## **5. PROPOSAL EVALUATION**

The criteria to be used to evaluate and select proposals for this project are described in the following paragraphs. Each proposal will be evaluated on the merit and relevance of the specific proposal as it relates to the program rather than against other proposals for research in the same general area, since no common work statement exists. In order of importance, the proposal Evaluation Criteria includes: (a) Technical Approach; (b) Relevant Experience; (c) Potential Contribution and Relevance to the DARPA Mission; (d) Approach/Ability to Technology Transition and (e) Cost Realism. In accordance with FAR 35.016(e) the primary basis for selecting proposals for award shall be technical, importance to agency programs, and funds availability. Cost realism and reasonableness shall also be considered to the extent appropriate as described herein. Proposals may be evaluated as they are received, or they may be collected and periodically reviewed. The following are descriptions of the above listed criteria:

### **5.1 TECHNICAL APPROACH**

The proposed technical approach is feasible, achievable, complete and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final product that achieves the goal can be expected as a result of award. The proposal identifies major technical risks and planned mitigation efforts are clearly defined and feasible. In particular, the following items will be considered and evaluated:

- Innovation and Realism
- Understanding of the Problem
- Scalability

### **5.2 RELEVANT EXPERIENCE**

The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

### **5.3 POTENTIAL CONTRIBUTION AND RELEVANCE TO THE DARPA MISSION**

The potential contributions of the proposed effort with relevance to the national technology base will be evaluated. Specifically, DARPA's mission is to maintain the technological superiority of the U.S. military and prevent technological surprise from harming our national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their military use.

### **5.4 APPROACH/ABILITY TO TECHNOLOGY TRANSITION**

The capability to transition the technology to the research, industrial, and operational military communities in such a way as to enhance U.S. defense.

### **5.5 COST REALISM**

The objective of this criterion is to establish that the proposed costs are reasonable and realistic for the technical and management approach offered, as well as to determine the proposer's practical understanding of the effort. This will be principally measured by cost per labor-hour and number of labor-hours proposed. The evaluation criterion recognize that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

NOTE: PROPOSERS ARE CAUTIONED THAT EVALUATION SCORES MAY BE LOWERED AND/OR PROPOSALS REJECTED IF SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.

## **6. SECURITY INFORMATION**

### **6.1. PROPOSAL SUBMISSION INFORMATION**

NOTE: The Government anticipates that proposals submitted under this BAA will be unclassified. In the event that a proposer chooses to submit a classified proposal or submit any documentation that may be classified, the following information is applicable.

Security classification guidance on a DD Form 254 will not be provided at this time since DARPA is soliciting ideas only.

If you choose to submit a classified proposal you must first receive permission of the Original Classification Authority (OCA) to use their information in replying to this BAA and submit the applicable OCA classification guide(s) to ensure that the proposal is protected appropriately.

Classified submissions shall be in accordance with the following guidance:

Collateral Classified Data: Use classification and marking guidance provided by previously issued security classification guides, the Information Security Regulation (DoD 5200.1-R), and the National Industrial Security Program Operating Manual (DoD 5220.22-M) when marking and transmitting information previously classified by another original classification authority.

Classified information at the Confidential and Secret level may only be mailed via U.S. Postal Service (USPS) Registered Mail or U.S. Postal Service Express Mail (USPS only; not DHL, UPS or FedEx). All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee. The inner envelope shall be addressed to:

Defense Advanced Research Projects Agency (DARPA)  
ATTN: BAA05-13, DARPA/ATO, Advanced Technologies  
3701 North Fairfax Drive, Suite 832  
Arlington, VA 22203-1714

The outer envelope shall be sealed with no identification as to the classification of its contents and addressed to:

Defense Advanced Research Projects Agency (DARPA)  
Security & Intelligence Directorate, Attn: CDR  
3701 North Fairfax Drive, Suite 832  
Arlington, VA 22203-1714

All Top Secret materials should be hand carried via an authorized, two-person courier team to the DARPA Classified Document Registry (CDR).

Special Access Program (SAP) Information: Contact the DARPA Program Security Support Center (PSSC) at 703-812-1962/1970 for further guidance and instructions prior to transmitting to DARPA. All Top Secret SAP, must be transmitted via approved methods for such material. Consult the DoD Overprint to the National Industrial Security Program Operating Manual for further guidance. It is strongly recommended that you coordinate the transmission of SAP material and information with the DARPA PSSC prior to transmission.

Sensitive Compartmented Information (SCI) Data: Contact the DARPA Special Security Contact Office (SSCO) at 703-812-1993/1994 for the correct SCI courier address and instructions. All SCI should be transmitted through your servicing Special Security Officer (SSO) / Special Security Contact Officer (SSCO). All SCI data must be transmitted through your servicing Special Security Officer (SSO) / Special Security Contact Officer (SSCO). All SCI data must be transmitted through SCI channels only (i.e., approved SCI Facility to SCI facility via secure fax).

Proposers must have existing and in-place prior to execution of an award, approved capabilities (personnel and facilities) to perform research and development at the classification level they propose.